

Evaluating Social Disparities in Elderly Hip Fracture Patients at a Safety Net Hospital*Paul Tornetta, MD; Andrew Do, MD; Justin Everett Kleiner, MD;**Annichia Burapachaisri, BS; Kaye Bemis**Boston University, Boston, Massachusetts, UNITED STATES*

Purpose: Prior studies report racial disparities in management of hip fracture patients regarding mobility, mortality, and intervention timing. The purpose of this study was to assess racial disparities in the timing of management and outcomes of elderly hip fracture patients at an urban safety net academic hospital with a population of 70% Black/Hispanic, 57% underserved, and 32% non-English-speaking patients. We hypothesized no racial disparities in treatment timing or outcomes.

Methods: Operatively treated hip fracture patients aged ≥ 60 years from June 2014 to July 2021 at a single Level I academic institution were identified via CPT codes and retrospectively reviewed. We excluded pathologic fractures, non-ED (emergency department) admissions, and those with incomplete data. Demographics and treatment times were obtained from the electronic medical record (EMR). The primary outcome was time from presentation to operating room (OR). χ^2 and t tests were used to compare categorical and continuous variables, respectively. Multivariate linear and logistic regression models evaluated differences between races adjusting for potential confounding variables. Significance was set at an alpha of 0.05.

Results: 412 patients ≥ 60 years old (239 White, 132 Black, 41 other race) with operatively treated hip fractures were included. The only differences in demographics found between racial groups were the proportion of English speakers (93% White, 79% Black, 5% other; $P < 0.001$) and hypertension (74% White, 90% Black, 78% other; $P = 0.001$). No differences were found between races for length of stay (LOS) and time from presentation to: evaluation by ED provider, obtaining radiographic studies, or operative management. Time from presentation to first radiographic order was significantly different between races (0.8 ± 0.88 hours White, 0.9 ± 1.7 hours Black, 1.6 ± 3.7 hours other; $P = 0.02$). No differences in 30- and 90-day readmission or 90-day mortality rates were found between races using univariate analysis. After adjusting for Charlson Comorbidity Index, American Society of Anesthesiologists score, hypertension, English speakers, and public insurance, "other" races were more likely to experience delays for time to first radiographic order (β 0.72, 95% confidence interval [CI] 0.01-1.42; $P = 0.047$) and had a higher 90-day mortality (odds ratio [OR] 71.6, 95% CI 3.2-1626; $P = 0.007$) versus White patients. No other significant differences were found in timing.

Conclusion: In contrast to prior reports, at our diverse safety net hospital patient race did not delay time to OR, or affect other factors in orthopaedic management. However, we were surprised that other race (non-White, non-Black) was associated with increased 90-day mortality. Further investigation is needed to determine structural or medical factors that might be related to 90-day mortality and develop appropriate interventions to eliminate any differences in mortality.